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ABSTRACT

Children in the kindergarten and first grade classes at 14 London (Ontario) schools were selected to participate in a pilot project that compared procedures for the early identification and remediation of children likely to experience difficulty acquiring reading skills. Analysis of the results indicated that the six screening systems tested did not differ markedly in the accuracy with which they identified high risk students. In terms of cost and teacher time, the two best methods at the kindergarten level were the Ottawa School Behaviour Checklist and the Myklebust Pupil Rating Scale, while teacher nomination was the most accurate, least expensive, and least time consuming method at the first grade level. Due to the pilot-feasibility nature of the study, precise statements about the absolute or relative effects of the seven interventions tested could not be made on the basis of the data collected. Of the seven intervention programs, three had selective advantages, three received generally positive responses, and one appeared to lack feasibility. (RL)

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A PILOT-FEASIBILITY STUDY OF EARLY SCREENING AND EARLY INTERVENTION
FOR STUDENTS LIKELY TO EXPERIENCE DIFFICULTY LEARNING TO READ*

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The Early Intervention Sub-Committee of the K-6 Curriculum Committee was asked, in 1977, to develop procedures for the early identification and remediation of children likely to experience difficulty acquiring reading skills. Since there are many competing points of view as to how best to achieve these ends, the Committee instituted a pilot-clinical study of a variety of these approaches during the 1977-78 school year. This report of findings and recommendations reflects the fact that this was a pilot-feasibility study rather than a rigorously-controlled research project.

METHOD

Although this phase of the project is regarded as a pilot, clinical-level investigation, it was planned to yield as much information as possible on: (a) the reliability and cost-effectiveness of six screening systems for identifying high-risk kindergarten and grade one children and (b) the feasibility, costs and relative effectiveness of seven prototypical intervention systems for grade one students.

Selection and Matching of Samples

Fourteen schools were selected for this study. Three criteria were used in choosing them. First, each participating school had to be clearly willing to be involved in the project. Second, core-area-type schools were given priority. Third, each "experimental" school was matched with a "comparison" school on the basis of the profiles utilized in the Resource Allocation Formula. Table 1 outlines the overall design.

Selection of Screening Systems and Interventions

The screening systems were selected from a large number available. There were three criteria for selection. First, they were to represent a wide variety of theoretical and practical positions. Second, they were to lend themselves to use by a classroom teacher with little or no need for assistance. Third, they were to have reasonable empirical support (e.g. Baretta, 1976; Bryan and McGrady, 1972; Medvedeff, 1969).

Three criteria were also used in the selection of intervention systems. First, they should represent a variety of theoretical points of view. Second, the interventions should vary in terms of method of delivery, e.g. by the classroom teacher to all or part of a class, by a Learning Resource Teacher to part of a class, by a Special Services Team, etc. Finally, to the extent possible, each intervention was to have a sound empirical base of support (e.g., DISTAR, Becker and Engelmann, 1977). A brief description of the screening and intervention systems is provided in Appendix I.

FINDINGS

Screening Systems

In the kindergarten classes all six screening instruments provided reasonably adequate predictions of end-of-year readiness as measured by the Metropolitan Reading Readiness Test. In fact, the screening systems do not appear to differ markedly in the accuracy with which they identify high-risk students. In terms of cost, use of teacher time and some slight differences in "hit-rates" the two best methods are the Ottawa School Behaviour Checklist and the Myklebust Pupil Rating Scale.

Similarly, in grade one there appears to be no notable difference in the capacity of the various approaches to predict the acquisition of reading skills, as measured by the Metropolitan Achievement test for reading. Teacher nomination, however, was not only the most accurate but is also the least expensive and time-consuming method.

Interventions

Because of the pilot-feasibility nature of this study, precise statements as to the absolute or relative effect of the interventions cannot be made on the basis of the data collected. Some of the reasons for this are; the lack of pre-intervention testing; unforeseen difficulties in implementation, and variability in teacher competence in the use of the techniques due to differential amounts of training and experience.

However, we can make the following judgements on the basis of our observations, data and review of the literature.

(1) It is clear that Precision Teaching is not feasible because it requires an unacceptably large expenditure of teacher time.

(2) The Medvedeff programme, while probably producing a positive effect on listening skills, is more appropriate to a kindergarten than grade one programme. This is consistent with the experience of the Brant County Separate School Board (Feeney, 1978).

(3) The Holt "Language Patterns" series appears, on observation, to be of particular value for core-area-type students. It was most interesting to note that this method is a "whole-class" application of an important remedial procedure, namely the Visual-Auditory-Kinesthetic-Tactile (V.A.K.T.) method.

(4) Language training seems to be a promising approach to the development of pre-reading skills. Generally speaking this method is now one of several options available to Special Service Teams.

(5) The student-service team approach, carefully monitored and well structured, with systematic follow-up is most promising.

(6) Because of its particular program structure, Direct Instruction

(e.g. DISTAR) does not begin to produce results which can be measured by standard reading tests until it has been in use for two to three years. In our project, it was implemented with a consistency and precision which suggest that its long-term effects will be quite positive.

(7) Finally, because of difficulties in implementation, it is not possible to draw any conclusions regarding S.A.R.I. However, Lerner (1971), Bloom (1976) and others have provided convincing evidence that mastery approaches are particularly effective with students who experience difficulty in learning.

RECOMMENDATIONS

Screening

The following recommendations are based on our own findings and judgements regarding the costs, ease of implementation, and reliability of the various screening systems. The recommendations are also consistent with those made in most recent studies reported in the literature.

It is recommended that:

(1) systematic screening be done, beginning this 1978-79 academic year, in all kindergarten and grade one classes;

(2) the screening be done in three steps. First, the teacher will identify those students who she feels are *not* "at risk", *may* be "at risk" or *definitely* are "at risk". Second, the teacher will complete a Myklebust Pupil Rating Scale for those children in the latter two categories. Third, this information will be reviewed by the school's special services team.

(3) the Ottawa School Behaviour Checklist be utilized in two administrative areas to determine if, as is suspected, it will, with only a modest increase in cost, significantly improve the validity of the screening process.

(4) the screening process be piloted in two administrative areas in October, modified as indicated by the pilot study and applied in the remaining areas in November.

(5) the effectiveness of the screening be further validated by a systematic, three-year follow-up of children identified as "at risk".

Interventions

The following recommendations are based on judgements regarding the feasibility, relative cost and potential effectiveness of the approaches we have been evaluating. It is recommended that:

(1) a carefully-designed evaluation programme be instituted to assess the effectiveness of DISTAR, SARI and Special Services Teams in assisting "high-risk" students acquire skill in reading,

(2) the current school year be used to prepare for such research by training appropriate staff in the use of these methods, and in developing the necessary implementation, monitoring and measurement techniques, and

(3) the above be carried out in cooperation with the English Department.

SUMMARY

A pilot-feasibility study of several screening and intervention strategies was briefly described. Our experience, data and review of current literature produced two basic recommendations:

(1) that system-wide screening be instituted this year to identify children in kindergarten and grade one who are likely to experience difficulty in the acquisition of reading skills, and

(2) that an evaluation study be instituted to assist teachers and special services personnel in making decisions as to be most effective and least costly interventions for children identified as "at risk".

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TABLE 1 Methods of Identification and Intervention Used by Grade and School.

School		Method of Identification	Intervention
<i>Grade 1</i>			
Experimental	Tecumseh	Teacher Nomination	DISTAR
	Prince Charles		Holt, Multi-sensory
	C.C.Carrothers	Hess	Precision Teaching
	Wilton Grove	Language	Language
	Roosevelt	Ottawa (Behaviour)	SARI
	Manor Park	Medvedeff	Medvedeff
	J.P.Robarts	Myklebust	Team
Contrast	Arthur Ford	Teacher Nomination	
	Woodland Heights		
	Princess Elizabeth	Hess	
	Sir J.A. Macdonald	Language	
	Lord Elgin	Ottawa	
	Aberdeen	Medvedeff	
	Cleardale	Myklebust	
<i>Kindergarten</i>			
Experimental	Tecumseh	Teacher Nomination	
	Prince Charles		
	C.C. Carrothers	Hess	
	Wilton Grove	Language	
	Roosevelt	Ottawa	
	Manor Park	Medvedeff	
	J. P. Robarts	Myklebust	

APPENDIX 1

DEFINITION OF METHODS

SCREENING

- Ottawa School Behaviour Checklist* - a 100-item list of observable behaviours relating to aggression, disruption, anxiety and depression.
- Myklebust Pupil Rating Scale* - a rating scale on which a teacher indicates his judgement of pupil ability in the areas of language, perceptual-motor and social skills.
- Hess* - a teacher-administered intelligence test which taps several areas of functioning.
- Teacher Nomination* - a method in which the teacher rank orders her students in terms of how well she feels they will do in reading.
- Language* - Rhea Stewart's screening test, which is teacher-administered and which assesses strengths in syntax, expressive and receptive language and related areas.
- Medvedeff* - a 100-item list of observable behaviours focusing on perceptual-motor, language and social-emotional skills.

INTERVENTIONS

- DISTAR* - a mastery method, derived from behavioural theory, which is highly structured, step-by-step and dependent on the use of discriminate cues and reinforcement. Used with part of a class by a Learning Resource Teacher.
- Precision Teaching* - a mastery technique which specifies skills or target behaviours, depends on reinforcement for speed and/or accuracy of responses and careful "charting". Used by a classroom teacher with part of a class.
- S.A.R.I. (Systematic Approach to Reading Instruction)* - specifies a hierarchy of skills, establishes each student's level of functioning, teaches to the skill and tests for mastery before progressing to the next skill. Used with a whole class by their teacher.
- Holt-Rinehart "Language Patterns"* - a reading series which is multi-sensory and heavily weighted to teaching phonics. It was used with a whole class by their teacher.

Language training - a psycholinguistic approach to language development.
Used with part of a class by a Language Teacher.

Medvedeff's CHILD - a perceptual-motor method used by a Learning Resource
Teacher.

Team - referral of high risk students to the school team for treatment.
It was used with part of a class.